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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,478	09/23/2003	Laurent C. Bissonnette	20002.0328	9072

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EXAMINER	
LE, BRIAN Q	
ART UNIT	**PAPER NUMBER**
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,478	BISSONNETTE ET AL.	
	Examiner	Art Unit	
	Brian Q. Le	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/23/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 9 and 15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 37 of copending Application No. 10/861,441. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 9, and 15 are substantially claiming a concept of automatically identifying golf club and golf ball comprising storing reference image information of golf ball and golf club and automatically identifying a club or ball based on a comparison of input image to reference image which claim 37 of Application No. 10/861,441 also substantially disclosed the described concept.

Also claims 1, 9, 15 of the application recite the open ended transitional phrase "comprising", does not preclude the method as being performed by an apparatus/method.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2-3, and 9-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 2-3 and 9, the specification does not disclose sufficient information to enable one skilled in the art to make sure of an **automatic identification of golf clubs or golf balls less than 6 seconds or 1 seconds** (emphasis added). The prior art rejection based on the Examiner's best understanding. Appropriate correction is required.

Other claims are rejected because of the dependence on the independent claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 7, 9, and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Cameron et al. U.S. Publication No. 2001/0029207.

Regarding claim 1, Cameron teaches a method for automatically (column 4, column 2, [0040]) identifying a plurality of golf clubs and golf balls (the process of recognizing swing which include the club and the ball) (page 1, column 1, [0008]; page 1, column 2, [0011] and FIG. 4), comprising:

Storing image reference information (when image is capture, stored and then use for further analysis such as identification and comparison, then it is an image reference) (page 1, column 2, first 10 lines and [0011]) for each of the plurality of golf clubs and golf balls (page 1, column 1-2, [0008]);

Acquiring an image of at least one of said balls and clubs during a swing (page 1, column 1, [0011]); and

Automatically identifying (page 3, column 1, [0030]) at least one of said club or ball based on a comparison (page 4, column 2, [0039]) to said image reference information (page 1, column 2, first 10 lines and [0011]).

For claim 2, Cameron also teaches the method wherein said automatically identifying (the Kodak Motioncorder Analyzer can process images at 600 frames per second) (page 2, column 1, [0023]) takes about six seconds or less (FIG. 7, ".5000sec").

For claim 3, Cameron also teaches the method wherein said automatically identifying (the Kodak Motioncorder Analyzer can process images at 600 frames per second) (page 2, column 1, [0023]) takes about one second or less (FIG. 7, ".5000sec").

For claim 7, Cameron discloses image reference information is based on inherent features of said balls (performance of the golf ball such as the impact) (page 1, column 2, [0010]) and clubs (dimensions of golf club) (page 1, column 2, [0010]).

Regarding claim 9, please refer back to claims 1-2 for further teachings and explanations.

For claim 15, Cameron teaches a system for automatically (column 4, column 2, [0040]) identifying a plurality of objects (the process of recognizing swing which include the club and the ball) (page 1, column 1, [0008]; page 1, column 2, [0011] and FIG. 4), comprising:

At least one camera system (FIG. 1, elements 20, 22, 24 and 26); and

A computational device capable of identifying an acquired image from a library of stored reference information (a computer) (FIG. 1, elements 30, 32 and 34 and page 2, column 2, [0024]).

For claim 16, please refer back to claim 7 for further teachings and explanations.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4-6, 10-13, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Cameron et al. U.S. Publication No. 2001/0029207 as applied to claim 1 above, and further in view of Lawandy et al. U.S. 7,184,569.

Regarding claim 4, Cameron teaches image information can based on a plurality of markers (page 4, column 2, [0040]). However, Cameron does not explicitly teach that markers on image comprise visible ink. Lawandy teaches an object marking process on image (abstract) wherein markers comprise visible ink (visible mark) (column 4, lines 49-55). Modifying Cameron's method of providing marking on reference images according to Lawandy would be able to generate visible mark on images. This would improve processing because it would aid observer to verify the presence of an image to verify characteristics relate to images (column 5, lines 1-5) and therefore, it would have been obvious to one of the ordinary skill in the art to modify Cameron according to Lawandy.

Also to claim 5, Lawandy further teaches markers comprise ink responsive to ultraviolet light (abstract).

Referring to claim 6, Lawandy also teaches the method wherein said visible ink markers comprise limited spectrum markers responsive to one of the colored light (infrared is colored light) (column 7, lines 65-67) and fluorescent light (column 7, lines 33-35).

For claims 10-13, please refer back to claims 4-7 respectively for further teachings and explanations.

For claim 17, please refer back to claim 5 for further teachings and explanations.

For claim 18, please refer back to claim 4 for further teachings and explanations.

9. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Cameron et al. U.S. Publication No. 2001/0029207 as applied to claim 1 above, and further in view of Amano U.S. 6,519,545.

Regarding claim 8, as disclosed in claim 1, Cameron teaches an automatic identification method. Cameron does not explicitly teach the method of identification is based on Eigen values. Amano further teaches an automatic (mathematical implementation is programmed) (column 4, lines 30-49) identification method including trajectory of golf club (column 1, lines 63-67) wherein the identification method is based on Eigen values (page 5, lines 48-51). Modifying Cameron's method of identifying golf clubs and golf balls according to Amano would be able to Eigen values into the identification process. This would improve processing because this would allow the calculation of direction and trajectory of objects (column 5, lines 48-50 and column 6, lines 1-8) and therefore, it would have been obvious to one of the ordinary skill in the art to modify Cameron according to Amano.

For claim 14, please refer back to claim 8 for further teachings and explanations.

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cameron et al. U.S. Publication No. 2001/0029207.

Regarding claim 19, Cameron teaches a library of stored reference information (when image is capture, stored and then use for further analysis such as identification and comparison, then it is an image reference) (page 1, column 2, first 10 lines and [0011]) comprises an ability of recording 600 frames per second and stores the data (page 2, column 1, [0023] and page 2, column 2, [0024]). Reasonably, a frame of image can store a golf club and a golf ball (FIG. 4).

Thus, it would be obvious that the disclosed device by Cameron able to store more than 200 or more objects from the ability of recording 600 frames per second.

CONCLUSION

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to a method of identifying golf clubs, golf balls, and object marking:

U.S. Pat. No. 6,974,395 to Rioux, teaches Golf club and ball marking and alignment device.

U.S. Pat. No. 6,579,190 to Yamamoto, teaches ball motion measuring apparatus.

U.S. Pub. No. 2004/0032970 to Kiraly, teaches flight parameter measurement system.

U.S. Pat. No. 5,413,345 to Nauck, teaches Golf shot tracking and analysis system.

U.S. Pub. No. 2002/0082123 to Vochezer, teaches divot tool.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Le
March 28, 2007